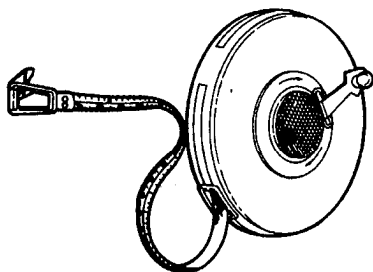
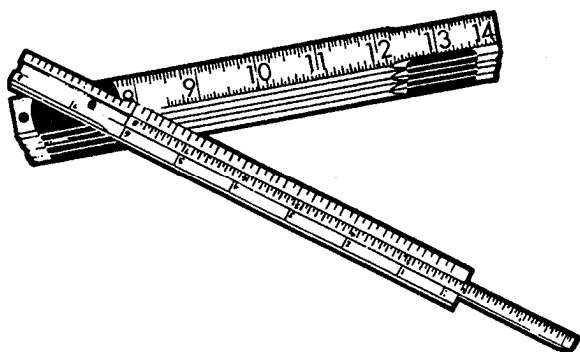
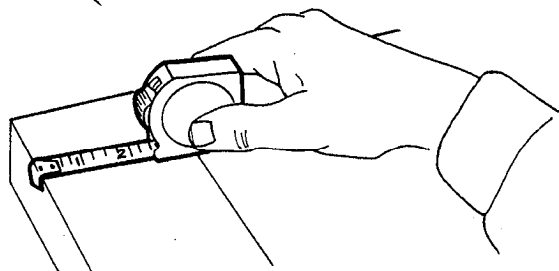
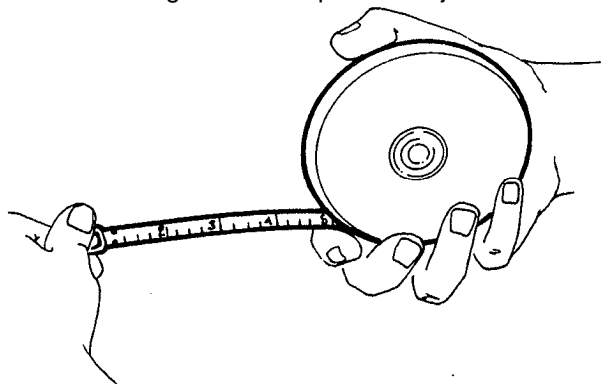


## Chapter 8 RULES AND STEEL TAPES

### HOW TO CHOOSE AND USE THEM

The "Types and Uses" section provides you with a list of the types of rules and tapes. These pages should help you select the right rule or tape for the job.

The "Using Rules and Tapes" section tells you how to use the various types of measuring instruments. The "Care" procedures tell you how to care for rules and tapes.



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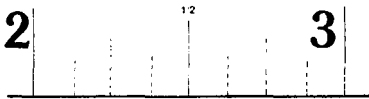
## TYPES AND USES

The rule or tape is used for measuring where accuracy is not an extremely critical factor. They can be rigid or flexible, come in various lengths, and can be made of wood, metal, cloth, or fiberglass.

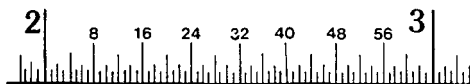
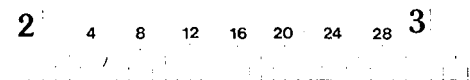
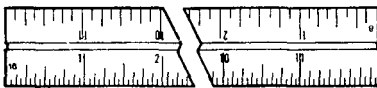
### RULES



The rule is the most common of measuring tools. This rule is usually 6 or 12 inches in length, although other lengths are available. Steel rules may be flexible or nonflexible, but the thinner the rule, the easier it is to measure accurately because the division marks are closer to the work.

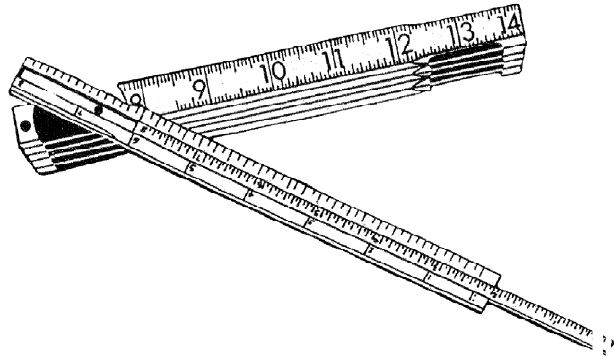


A rule usually has four sets of graduations, one on each edge of each side. The longest lines represent the inch marks. On one edge each inch is divided into 8 equal spaces so each space represents 1/8 in. The other edge of this side is divided in sixteenths. The 1/4-in. and 1/2-in. marks are commonly made longer than the smaller division marks to facilitate counting, but the graduations are usually not numbered individually, as they are sufficiently far apart to be counted without difficulty. The opposite side is similarly divided into 32 and 64 spaces per inch, and it is common practice to number every fourth division for easier reading.



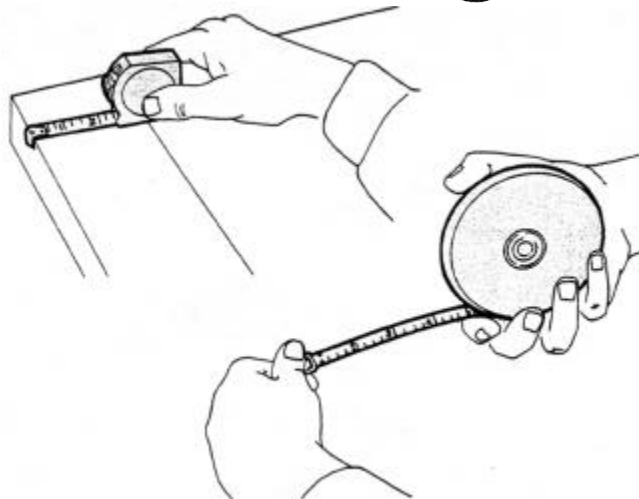
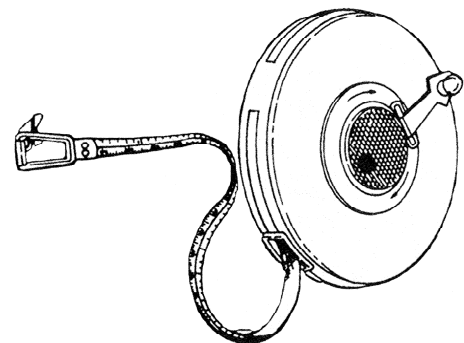
There are many variations of the common rule. Sometimes the graduations are on one side only, sometimes a set of graduations is added across one end for measuring in narrow spaces, and sometimes only the first inch is divided into 64ths, with the remaining inches divided into 32nds and 16ths. A metal or wood folding rule may be used.

### FOLDING RULES



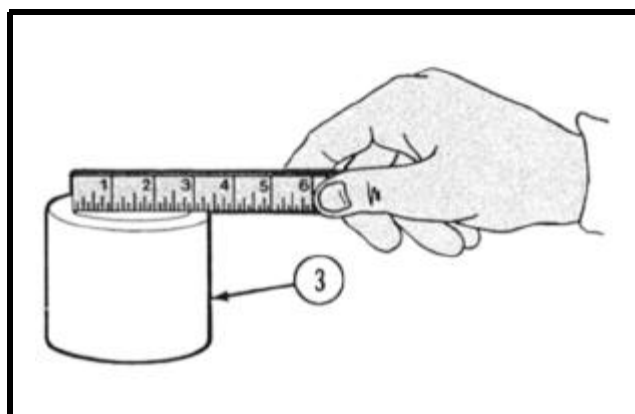
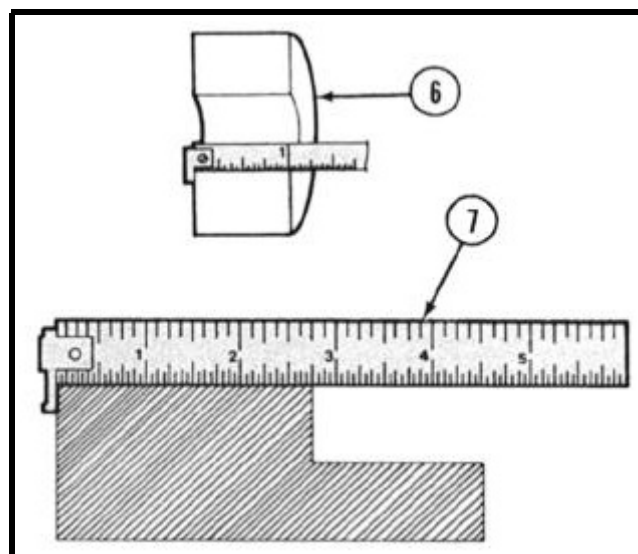
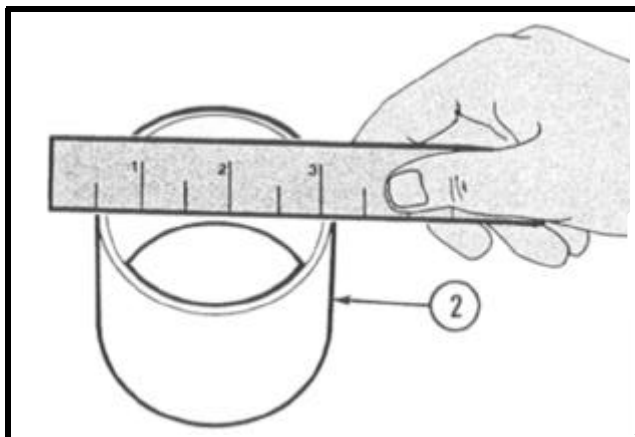
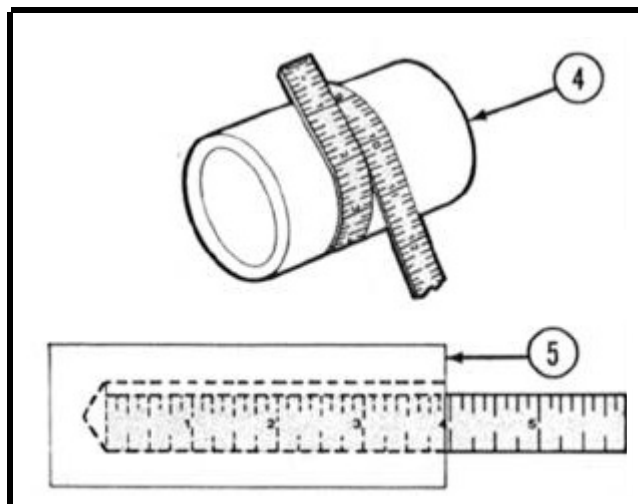
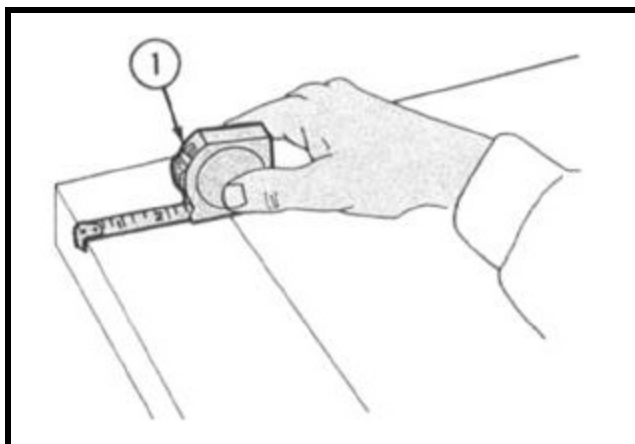
These folding rules are usually from two to six feet long. The folding rules cannot be relied on for extremely accurate measurements because a certain amount of play develops at the joints after continued use.

### STEEL TAPES



Steel tapes are made from 6 to about 300 feet in length. The shorter tapes are made with a curved, but rigid, cross section flexible enough to be rolled up. Long, flat tapes need support over their full length to avoid sagging. Lack of support can cause reading errors. The most common types of steel tapes have a hook at one end to let one person take all the readings.

## USING RULES AND TAPES EXAMPLES



- 1 Rules and tapes used for measuring lengths.
- 2 Measuring the outside diameter of pipe.
- 3 Measuring the inside diameter of pipe.
- 4 Measuring the circumference of pipe.
- 5 Measuring inside dimensions.
- 6 Measuring the thickness of stock through a hole.
- 7 Measuring outside dimension with a tape.

## CARE OF RULES AND TAPES

1. Keep rules and tapes clean and dry.
2. Store rules and tapes where they will not become bent or damaged.

